

ABSTRACT OF THE DISCLOSURE

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5 A square anti-symmetric uniformly redundant array  
coded aperture includes transparent and opaque cells and  
exhibits a normal mask pattern at a first position and a  
complementary mask pattern when rotated to a second  
position rotationally offset by 90° from the first  
position. The coded aperture is utilized in a coded  
aperture imaging system for imaging a source of non-  
focusable radiation such as a gamma ray or x-ray emitting  
10 source. Such a coded aperture imaging system basically  
includes a square anti-symmetric uniformly redundant  
array coded aperture for receiving radiation emitted by a  
source and generating a first coded shadow therefrom at  
the first position, and a second coded shadow therefrom  
15 at the second position, a rotating platform and motor for  
rotating the coded aperture between the first and second  
position, a position sensitive detector situated with  
respect to the coded aperture to allow the first and  
second coded shadows to sequentially impinge on the  
20 detector, the detector respectively generating a first  
coded optical signal and a second coded optical signal in  
response thereto, an optical signal convertor responsive  
to the first and second coded optical signals and  
respectively generating a first coded electrical signal  
25 and a second coded electrical signal in response thereto  
and a signal processor responsive to the first and second  
coded electrical signals and decoding the coded  
electrical signals to generate an image signal which is  
representative of an image of the source of non-focusable  
30 radiation.